

Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_O : 0.1 A

Output voltage V_O : 6 V

Continuous total dissipation P_D : 0.35 W ($T_a = 25^\circ\text{C}$)



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies)

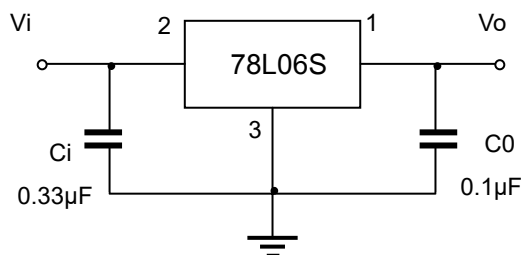
Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0-150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=11\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	V_o	25°C	5.75	6.0	6.25	V	
		$8\text{V } V_i \ 20\text{V}, I_o=1\text{mA}\sim 40\text{mA}$	0-125 $^\circ\text{C}$	5.7	6.0	6.3	V
		$I_o=1\text{mA}\sim 70\text{mA}$		5.7	6.0	6.3	V
Load Regulation	V_o	$I_o=1\text{mA}\sim 100\text{mA}$	25°C	16	80	mV	
		$I_o=1\text{mA}\sim 70\text{mA}$	25°C	9	40	mV	
Line regulation	V_o	$8\text{V } V_{i1} \ 20\text{V}$	25°C	35	175	mV	
		$9\text{V } V_i \ 20\text{V}$	25°C	29	125	mV	
Quiescent Current	I_q		25°C	3.9	6	mA	
Quiescent Current Change	I_q	$9\text{V } V_i \ 20\text{V}$	0-125 $^\circ\text{C}$		1.5	mA	
		$1\text{mA } I_o \ 40\text{mA}$	0-125 $^\circ\text{C}$		0.1	mA	
Output Noise Voltage	V_N	10Hz f 100KHz	25°C	46		μV	
Ripple Rejection	RR	$9\text{V } V_i \ 19\text{V}, f=120\text{Hz}$	0-125 $^\circ\text{C}$	40	48	dB	
Dropout Voltage	V_d		25°C	1.7		V	

* Pulse test.

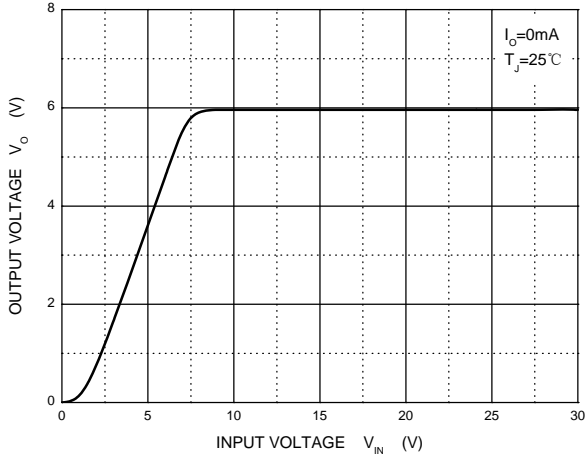
TYPICAL APPLICATION



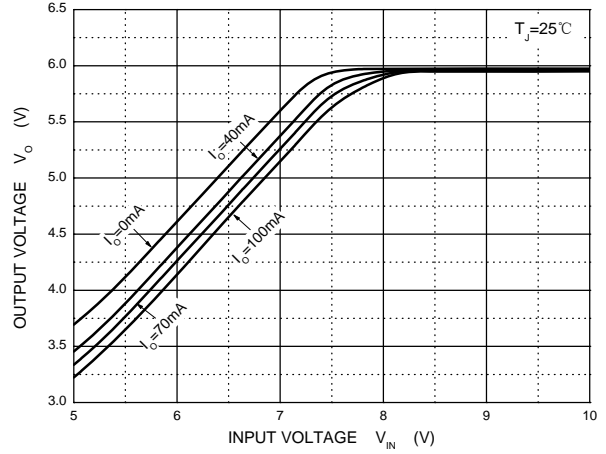
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

Typical Characteristics

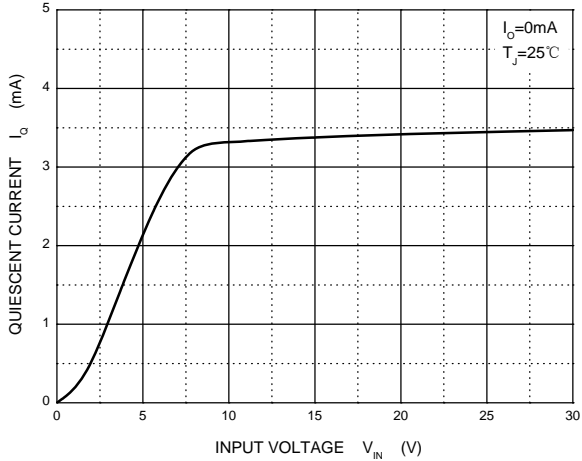
Output Characteristics



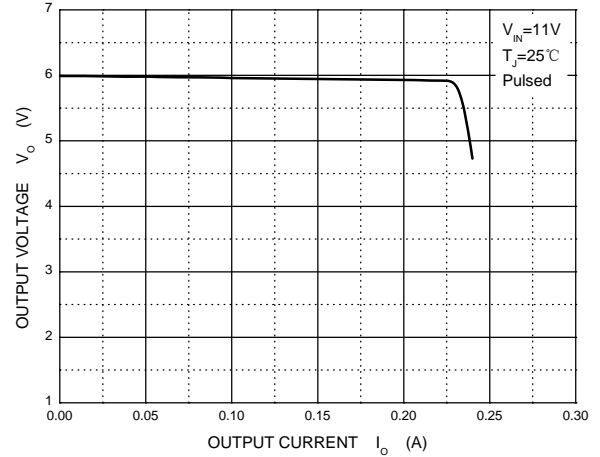
Dropout Characteristics



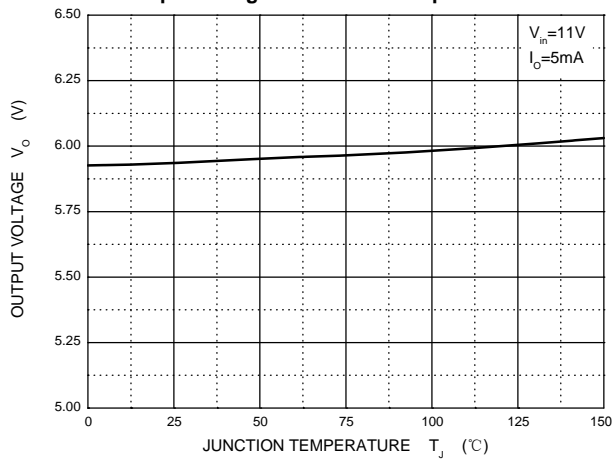
Quiescent Current



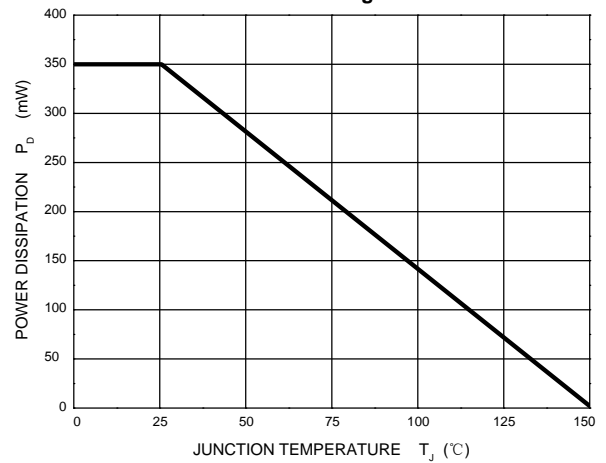
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



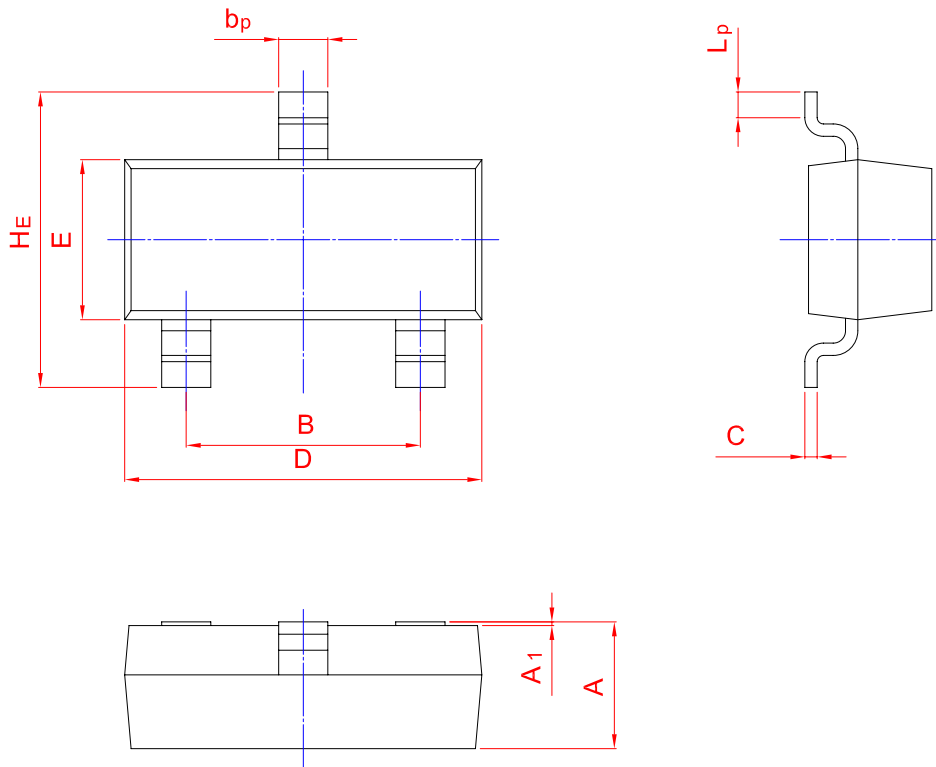
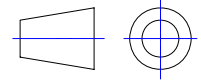
Power Derating Curve



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	bp	C	D	E	HE	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20